

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1-3. (Cancelled).

4. (Currently amended) A set of nucleic acids comprising:

a first pair of primers, both containing oligo-nucleotides selected from the hemagglutinin-neuraminidase gene region of human parainfluenza virus 2, the oligo-nucleotides in the first pair of primers being, respectively, SEQ ID NOs:5 and 7, or SEQ ID NOs:6 and 7;

a second pair of primers, both containing oligo-nucleotides selected from the hexon gene region of adenovirus, the oligo-nucleotides in the second pair of primers being, respectively, SEQ ID NOs:24 and 26, SEQ ID NOs:24 and 27, or SEQ ID NOs:25 and 27; and

a third pair of primers, both containing oligo-nucleotides selected from the non-structural protein 2 gene region of respiratory syncytial virus, the oligo-nucleotides in the third pair of primers being, respectively, SEQ ID NOs:12 and 14, or SEQ ID NOs:13 and 15,  
wherein each nucleic acid is 14-40 nucleotides in length, and each primer is a single compound.

5. (Previously presented) The set of nucleic acids of claim 4, further comprising:

a fourth pair of primers containing, respectively, oligo-nucleotides SEQ ID NOs:1 and 3, SEQ ID NOs:2 and 3, or SEQ ID NOs:1 and 4;

a fifth pair of primers containing, respectively, oligo-nucleotides SEQ ID NOs:8 and 10, SEQ ID NOs:8 and 11, or SEQ IN NOs:9 and 11;

a sixth pair of primers containing, respectively, oligo-nucleotides SEQ ID NOs: 16 and 18, or SEQ ID NOs:17 and 19; or

a seventh pair of primers containing, respectively, oligo-nucleotides SEQ ID NO:20 and 22, or SEQ ID NOs:21 and 23,

or a combination thereof.

6. (Cancelled).

7. (Currently amended) A set of nucleic acids comprising:

a first nucleic acid obtained from amplification of a respiratory syncytial virus nucleic acid template with a first pair of primers, both containing oligo-nucleotides selected from the non-structural protein 2 gene region, the oligo-nucleotides in the first pair of primers being, respectively, SEQ ID NOs:12 and 14, or SEQ ID NOs:13 and 15;

a second nucleic acid obtained from amplification of an influenza virus A nucleic acid template with a second pair of primers, both containing oligo-nucleotides selected from the non-structural protein gene region, the oligo-nucleotides in the second pair of primers being, respectively, SEQ ID NOs: 16 and 18, or SEQ ID NOs:17 and 19; and

a third nucleic acid obtained from amplification of an influenza virus B nucleic acid template with a third pair of primers, both containing oligo-nucleotides selected from the hemagglutinin gene region, the oligo-nucleotides in the third pair of primers being, respectively, SEQ ID NOs:20 and 22, or SEQ ID NOs:21 and 23,  
wherein each nucleic acid is 14-40 nucleotides in length, and each primer is a single compound.

8. (Original) The set of nucleic acids of claim 7, further comprising:

a fourth nucleic acid obtained from amplification of a human parainfluenza virus 1 nucleic acid template with a fourth pair of primers, said fourth pair of primers containing, respectively, oligo-nucleotides SEQ ID NOs:1 and 3, SEQ ID NOs:2 and 3, or SEQ ID NOs:1 and 4;

a fifth nucleic acid obtained from amplification of a human parainfluenza virus 2 nucleic acid template with a fifth pair of primers, said fifth pair of primers containing, respectively, oligo-nucleotides SEQ ID NOs:5 and 7, or SEQ ID NOs:6 and 7;

a sixth nucleic acid obtained from amplification of a human parainfluenza virus 3 nucleic acid template with a sixth pair of primers, said sixth pair of primers containing, respectively, oligo-nucleotides SEQ ID NOs:8 and 10, SEQ ID NOs:8 and 11, or SEQ IN NOs:9 and 11; or

a seventh nucleic acid obtained from amplification of an adenovirus nucleic acid template with a seventh pair of primers, said seventh pair of primers containing, respectively, oligo-

nucleotides SEQ ID NOs:24 and 26, SEQ ID NOs:24 and 27, or SEQ ID NOs:25 and 27;  
or a combination thereof.

9-11. (Cancelled).

12. (Currently amended) A set of nucleic acids comprising:  
a first nucleic acid containing a first oligo-nucleotide selected from the non-structural  
protein 2 gene region of respiratory syncytial virus;  
a second nucleic acid containing a second oligo-nucleotide selected from the  
hemagglutinin gene region of influenza virus B; and  
a third nucleic acid containing a third oligo-nucleotide selected from the non-structural  
protein gene region of influenza virus A,  
wherein each oligo-nucleotide is a single compound selected from the group consisting of SEQ  
ID NOs:40-52 and sequences complementary thereto, and each nucleic acid is 20-200  
nucleotides in length.

13. (Cancelled).

14. (Previously presented) The set of nucleic acids of claim 12, wherein each nucleic  
acid has 20-50 nucleotides in length.

15. (Previously presented) The set of nucleic acids of claim 12, further comprising a  
nucleic acid containing an oligo-nucleotide selected from the group consisting of  
SEQ ID NOs:28-39, 53-57, and sequences complementary thereto, wherein each nucleic acid has  
20-200 nucleotides in length.

16. (Cancelled).

17. (Previously presented) The set of nucleic acids of claim 15, wherein each nucleic  
acid has 20-50 nucleotides in length.

18. (Withdrawn) A method of simultaneously detecting viruses which cause respiratory infections comprising:

providing a nucleic acid from a sample suspected of containing a virus to be detected;  
amplifying the nucleic acid with a set of primers specific for a group of target viruses, said set of primers containing a first pair of primers, each having an oligo-nucleotide selected from the hemagglutinin-neuraminidase gene region of human parainfluenza virus 2, and a second pair of primers, each having an oligo-nucleotide selected from the hexon gene region of adenovirus, each oligo-nucleotide having 14-40 nucleotides in length; and

detecting amplification products;

whereby detection of an amplification product specific for a target virus indicates the presence of the target virus.

19. (Withdrawn) The method of claim 18, wherein, in the amplifying step, said set of primers further containing:

a third pair of primers, each including an oligo-nucleotide specific for human parainfluenza virus 1,

a fourth pair of primers, each including an oligo-nucleotide specific for human parainfluenza virus 3,

a fifth pair of primers, each including an oligo-nucleotide specific for respiratory syncytial virus,

a sixth pair of primers, each including an oligo-nucleotide specific for influenza virus A, or

a seventh pair of primers, each including an oligo-nucleotide specific for influenza virus B,

or a combination thereof.

20. (Withdrawn) The method of claim 19, wherein the oligo-nucleotides in the third pair of primers are selected from the hemagglutinin-neuraminidase gene region of human parainfluenza virus 1,

the oligo-nucleotides in the fourth pair of primers are selected from the hemagglutinin-neuraminidase gene region of human parainfluenza virus 3,

the oligo-nucleotides in the fifth pair of primers are selected from the non-structural protein 2 gene region of respiratory syncytial virus,

the oligo-nucleotides in the sixth pair of primers are selected from the non-structural protein gene region of influenza virus A, and

the oligo-nucleotides in the seventh pair of primers are selected from the hemagglutinin-neuraminidase gene region of influenza virus B.

21. (Withdrawn) The method of claim 18, wherein

the oligo-nucleotides in the first pair of primers are, respectively, SEQ ID NOs:5 and 7, or SEQ ID NOs:6 and 7; and

the oligo-nucleotides in the second pair of primers are, respectively, SEQ ID NOs:24 and 26, SEQ ID NOs:24 and 27, or SEQ ID NOs:25 and 27.

22. (Withdrawn) The method of claim 21, wherein said set of primers further containing:

a third pair of primers including, respectively, oligo-nucleotides SEQ ID NOs:1 and 3, SEQ ID NOs:2 and 3, or SEQ ID NOs:1 and 4;

a fourth pair of primers including, respectively, oligo-nucleotides SEQ ID NOs:8 and 10, SEQ ID NOs:8 and 11, or SEQ IN NOs:9 and 11;

a fifth pair of primers including, respectively, oligo-nucleotides SEQ ID NOs:12 and 14, or SEQ ID NOs:13 and 15;

a sixth pair of primers including, respectively, oligo-nucleotides SEQ ID NOs: 16 and 18, or SEQ ID NOs:17 and 19; or

a seventh pair of primers including, respectively, oligo-nucleotides SEQ ID NO:20 and 22, or SEQ ID NOs:21 and 23;

or a combination thereof.

23. (Withdrawn) The method of claim 18, wherein the detecting step includes hybridizing the amplification product to a set of probes, said set of probes containing:

a first probe having a first nucleic acid selected from the hemagglutinin-neuraminidase gene region of human parainfluenza virus 2, and

a second probe having a second nucleic acid selected from the hexon gene region of adenovirus,

each probe having 20-2000 nucleotides in length.

24. (Withdrawn) The method of claim 23, wherein each nucleic acid is selected from the group consisting of SEQ ID NOs:34-36 and 53-57.

25. (Withdrawn) The method of claim 19, wherein the detecting step includes hybridizing the amplification product to a set of primers, said set of probes contains:

a first probe having a first nucleic acid selected from the hemagglutinin-neuraminidase gene region of human parainfluenza virus 2, and

a second probe having a second nucleic acid selected from the hexon gene region of adenovirus;

said set of probes further contains:

a third probe having a third nucleic acid specific for human parainfluenza virus 1,

a fourth probe having a fourth nucleic acid specific for human parainfluenza virus 3,

a fifth probe having a fifth nucleic acid specific for respiratory syncytial virus,

a sixth probe having a sixth nucleic acid specific for influenza virus A, or

a seventh probe having a seventh nucleic acid specific for influenza virus B,

or a combination thereof;

each probe having 20-2000 nucleotides in length.

26. (Withdrawn) The method of claim 25, wherein each probe is selected from the group consisting of SEQ ID NOs:28-57.

27. (Cancelled).